(12) EUROPEAN PATENT SPECIFICATION

(54) **A METHOD OF CONTROLLING ACCESS TO RESTRICTED ACCESS DATA AND COMMUNICATION SYSTEM THEREFOR**

ZUGRIFFSSTEUERUNGSVERFAHREN ZU ZUGRIFFSBESCHRÄNKTEN DATEN UND DATENÜBERTRAGUNGSSYSTEM DAFÜR

PROCEDE DE GESTION DE L'ACCES AUX DONNEES A ACCES RESERVE ET SYSTEME DE COMMUNICATION DESTINE A CETTE FIN

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**EP-A- 0 258 716   EP-A- 0 258 945
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- **PATENT ABSTRACTS OF JAPAN, Vol. 12, No. 138 (P-695)(2985), 27 April 1988, & JP, A, 62260260 (Nec Corp.) 12 November 1987 see Abstract**

Description

This invention relates t th contr lling of acc ss to restricted access data.

With the v r growing us f electronic communication systems, it is necessary to ensure that only authorised users obtain access to restricted access data. For example, a computer may be accessible via the public telephone network by having a modem that links up, via the telephone network, with the modem of a user. Normally, the decision as to whether to permit access to any restricted access data in the computer is determined by whether the user transmits, via the modems, an approved access code or identity code to the computer. Such a system is known from Patent Abstracts of Japan, vol. 12, no. 138 (P-695)(2985)(NEC Corporation). However, so-called "hackers" are able by detailed knowledge of existing systems or by persistent guessing of possible identity codes to gain access to restricted access data in computers.

Accordingly, there is the need for an arrangement in which the "hacker" is unaware that he is being vetted as to whether or not he is entitled to access to the restricted access data. Alternatively, if the "hacker" is aware that he is being vetted, he must be unable to work ut how to circumvent the security features.

According to a first aspect of the present invention, a method of enabling a first apparatus to determine whether or not a second apparatus should be permitted access to restricted access data comprises the step of:

the first and second apparatuses performing joint negotiations to ensure technical compatibility for subsequent data transmission between themselves;
characterized in that the method further comprises the steps of:
the first apparatus monitoring the negotiations to detect whether, within the negotiations, there is a first indication originating from the second apparatus that the first apparatus recognises as indicating that the second apparatus is entitled to access to the restricted access data; and
the first apparatus responding, if it detects the first indication, by permitting the second apparatus to gain access to the restricted access data when data transmission starts after the negotiations have been completed.

If, for example, the first and second apparatuses are answer and call modems respectively, then the negotiations may be the start-up procedure that modems automatically perform without any active participation by the user whose personal computer, for example, is connected to the call modem. Because the user is vetted automatically during the start-up procedure, the user is not aware that his s curity status is b ing ch cked. Start-up proc dure negotiations are illustrated in Figur

4/V.32 of the CCITT Recommendation V.32 r lating to "A family of 2-wir , duplex modems operating at data signalling rates of up t 9600 bit/s for use on th general switched telephone network and on leas d t lephone-type circuits". Whilst som of the start-up procedure is precisely determined by the V.32 Recommendation, there are certain parts of the procedure where the exact format of the signals is not precisely laid down. It is during such parts of the procedure that the first indication may be included in the start-up negotiations.

Because the first indication may be included within existing standard modem procedures, such as the start-up procedure, the present invention may be made compatible with existing modem arrangements.

As it is possible that the first indication might be included in the negotiations by the second apparatus purely by chance, it is preferable that the method further includes the steps of:

the first apparatus including a second indication in the negotiations;
the second apparatus monitoring the negotiations to detect whether, within the negotiations, there is the second indication; and
the second apparatus including the first indication in the negotiations only if the second apparatus has already detected the second indication.

Because the first indication is generated in response to the second indication, it is less likely that the second indication will be included in the negotiations purely by chance compared with the arrangement where the first apparatus merely monitors for the presence of the first indication without having triggered the generation of the first indication by itself producing the second indication. Thus, an extra element of security is included.

It is envisaged that the first indication may, for example, identify the second apparatus as belonging to a group of apparatuses which are permitted access to the restricted access data. For example, the first indication may inform the first apparatus that the second apparatus is an authorised piece of apparatus belonging to company X. However, the first apparatus does not know exactly which of the possibly many authorised pieces of apparatuses belonging to company X the particular second apparatus it is communicating with happens to be. Thus, it is preferable that the method further includes the step of the second apparatus including a third indication in the negotiations after it has included the first indication in the negotiations. The third indication may therefore be used to identify more precisely or even uniquely the second apparatus. For example, the third indication could identify the second apparatus as being the piece of apparatus in the Accounts Department within company X. This gives an extra piece of knowledge to the first apparatus which was previously only aware, by virtue of th first indication, that the second apparatus

was one of the many authorised apparatuses belonging to company X.

According to a sec nd aspect of the present inv n-tion, a communication system comprises:

a first apparatus for controlling access to restricted access data; and
a second apparatus;
the first and second apparatuses including respective means for performing joint negotiations to ensure technical compatibility for subsequent data transmission between the first and second apparatuses;
characterized in that:
the second apparatus further includes means for including in the negotiations a first indication indicating that the second apparatus is entitled to access to the restricted access data; and
the first apparatus further includes means for monitoring the negotiations to detect the first indication and means for responding to the detection of the first indication by permitting the second apparatus to gain access to the restricted access data when data transmission starts after the negotiations have been completed.

Preferably, the first apparatus further includes means for including in the negotiations a second indication, and the second apparatus further includes means for monitoring the negotiations to detect the second indication and means for activating the first indication inclusion means in response to the detection of the second indication.

Preferably, the second apparatus further includes means for including in the negotiations a third indication after the first indication.

The invention will now be described by way of non-limiting example with reference to the accompanying drawings in which:-

Figure 1 is a diagram illustrating a 16-point signal structure with non-redundant coding for 9600 bit/s and subset A,B,C,D of states used at 4800 bit/s and for training; and
Figure 2 is a diagram illustrating the start-up procedure negotiations between modems prior to the transmission of data between the modems.

Figures 1 and 2 describe an example of the invention in the context of modem to modem communications as described in CCITT Recommendation V.32. A full explanation regarding signal states A,B,C,D as shown in Figure 1 is given in section 2.4 of Recommendation V. 32.

Also a full explanation regarding the start-up procedure negotiations is given in section 5 ("Operating Procedures") of Recommendation V.32.

Referral should be made to Recommendation V.32

in order t achieve a full understanding of the known start-up procedure specification.

How v r, in order to assist und rstanding f Figure 2, th re is reproduced below a table identifying the natur of the individual segments identified in Figure 2.

ANS	Answer tone in accordance with CCITT Recommendation V.25.
AC	Signal states ACAC..AC for an even number of symbol intervals T; similarly with CA,AA and CC.
MT,NT	Round-trip delays observed from answer and call modems respectively, including 64T±2T modem turn round delay.
S,$\bar{S}$	Signal states ABAB..AB, CDCD..CD.
TRN	Scrambled ones at 4800 bit/s with dibits encoded directly to states A, B, C and D as defined in section 5.2, c) of CCITT Recommendation V.32.
R1, R2, R3	Each a repeated 16-bit rate sequence at 4800 bit/s scrambled and differentially encoded as in Table 1 of CCITT Recommendation V.32.
E	A single 16-bit sequence marking and following the end of a whole number of 16-bit rate sequences in R2 and R3.
B1	Binary ones scrambled and encoded as for the subsequent transmission of data.
ECTS	Optional special echo canceller training sequence.

This example of the present invention relies on the fact that Recommendation V.32 does not specify precisely all features of the negotiations labelled 1 in Figure 2 that occur prior to data transmission 2. The negotiations 1 comprise the start-up procedure between the call and answer modems.

The negotiations 1 include segments 31 and 32 of a type called TRN which serve to train the adaptive equaliser in the receiving modem and the echo canceller in the transmitting modem. As may be seen from Figure 2, recommendation V.32 specifies that the TRN segments must be greater than or equal to 1280 symbol intervals T. A symbol interval T is the interval associated with one of the signal states A,B,C or D as shown in Figure 1. Also, Recommendation V.32 only specifies the nature of the first 256 symbols. There is therefore leeway as to exactly which symbols are selected to be the 257th symbol onwards and exactly how many symbols there should be, subject to the requirement that the total number of symbols associated with segment TRN is greater than or equal to 1280.

Thus, an indication may be given by choosing the total number of symbols to be a precise number, for example, 2036 symbols.

Thus, TRN segment 32 may be carefully arranged to provide the "first indication" of the pr sent invention.

TRN segment 32 has to be present in accordance with Recommendation V.32 but it is by choosing its param - ters within the possibilities allowed by the Recommendation that it may be made to serv the purpose of the "first indication". This may b don by, as m ntioned above, arranging for TRN segment 32 to have a precise symbol length. Alternatively, because the symbols from the 257th symbol onwards are unspecified, it may be arranged that within the TRN segment 32, after the 257th symbol, there is a predetermined code of the symbols A,B,C,D which the answer modem identifies as being the "first indication". Such a predetermined code of symbols may be likened to a gene contained within a chromosome.

Including such a code in TRN segment 32 will require the scrambler in the call modem to be returned to a known condition consistent with the state of the descrambler in the answer modem. Scrambler/descramblers are discussed in section 4 of Recommendation V. 32.

Prior to the "first indication" being included in the start-up procedure negotiations by the call modem by customizing the characteristics of the TRN segment 32, the answer modem produces its own customized TRN segment 31, which serves as a "second indication". The call modem monitors for the presence of the customized TRN segment 31 and only produces its own customized TRN segment 32 if it detects the presence of customized TRN segment 31. If the TRN segment 31 is not correctly customized (i.e. no "second indication" is present), then the call modem will produce a TRN segment 32 that does not contain the "first indication", e.g. by giving the segment a length of 2500 symbols or ensuring that it does not contain the predetermined code of the symbols A,B,C,D.

The customized TRN segment 31 may therefore be likened to a "nod" that is produced by the answer modem and which triggers off the production of a "wink" by the call modem in the form of the customized TRN segment 32.

The customized TRN segment 32 may in practice be capable of being produced by a large number of modems and thus, when the answer modem receives the customized TRN segment 32, it is unable to identify precisely which modem it is connected to.

Therefore, the call modem produces a "third indication" that is used to identify precisely which modem it is. The "third indication" is produced by the call modem after it has produced the "first indication". If the "first indication" is in the form of a predetermined code of signal states A,B,C,D embedded within TRN segment 32, then the "third indication" may also comprise a predetermined code of signal states A,B,C,D appearing in the TRN segment 32, but after the "first indication".

In the context of modems, it is envisaged that the present invention may b implemented by modifying standard modems that ar in accordance with Recommendation V.32. These modems, because they remain

in accordance with Recommendation V.32, are capable of working normally with ut providing a s curity checking function. How ver, in order to achieve such a security function, the modems will contain additional circuitry over and above that required to satisfy Recommendation V.32 so as to to provide the first, second and third indications and to respond thereto. Thus, additional circuitry in the answer modem will, upon detecting the first indication, produce a response (e.g. a signal) which permits the data transmission 2 subsequent to the start-up procedure negotiations 1 to involve the restricted access data. In simple terms, the signal produced by the answer modem may, for example, activate a switch so that a computer database accessed via the answer modem permits the, for example, personal computer connected to the call modem to have access only to nonrestricted data if the signal produced in response to the first indication is not present, but to have access to the restricted access data if the signal produced in response to the first indication is present.

It is to be understood that the present invention is not restricted to implementation in the context of modems. For example, a pair of computers might be connected by dedicated telephone lines and it is desirable that, every time they communicate with one another, they check that they are indeed authorised to pass restricted access data between themselves. Thus, there may be hardware or software within the computers which, during the negotiations involved prior to data transmission, effect the incorporation and detection of at least the first indication in the negotiations in order to ensure security.

The third indication, instead of being included within the TRN segment 32, could, for example, be incorporated within additional negotiations which are not shown in Figure 2. For example, after the start-up procedure negotiations 1, there could be additional negotiations associated with error correction and/or data compression which occur after the start-up procedure negotiations 1 but before data transmission 2. The third indication could therefore be incorporated in the error correction and/or data compression negotiations.

Claims

1. A method of enabling a first apparatus to determine whether or not a second apparatus should be permitted access to restricted access data, the method comprising the step of:

    the first and second apparatuses performing joint negotiations (1) to ensure technical compatibility for subsequent data transmission (2) between themselves;
    characterized in that the method further comprises the steps of:
    the first apparatus monitoring the negotiations

(1) to detect whether, within the negotiations, there is a first indication (32) originating from the second apparatus that the first apparatus recognises as indicating that the second apparatus is entitled to access to th restricted access data; and

the first apparatus responding, if it detects the first indication (32), by permitting the second apparatus to gain access to the restricted access data when data transmission (2) starts after the negotiations (1) have been completed.

2. A method according to claim 1, further including the steps of:

the first apparatus including a second indication (31) in the negotiations (1);
the second apparatus monitoring the negotiations (1) to detect whether, within the negotiations, there is the second indication (31); and
the second apparatus including the first indication (32) in the negotiations only if the second apparatus has already detected the second indication (31).

3. A method according to claim 1 or claim 2, further including the step of the second apparatus including a third indication in the negotiations (1) after it has included the first indication (32) in the negotiations.

4. A method according to claim 3, wherein the first indication (32) identifies the second apparatus as belonging to a group of apparatuses which are entitled to access to the restricted access data and the third indication identifies the second apparatus more precisely than the first indication.

5. A method according to any one of claims 1 to 4, wherein the first and second apparatuses are answer and call modems respectively.

6. A method according to any one of claims 1 to 5, wherein the first apparatus responds, if it does not detect the first indication (32) within the negotiations, by permitting the second apparatus to gain access only to non-restricted data when data transmission (2) starts after the negotiations (1) have been completed.

7. A communication system comprising:

a first apparatus for controlling access to restricted access data; and
a second apparatus;
the first and second apparatuses including respective means for performing joint negotiations (1) to ensure technical compatibility f r subsequent data transmission (2) between the

first and s cond apparatus s;
characterized in that:
the second apparatus further includes means for including in the negotiations (1) a first indication (32) indicating that the second apparatus is entitled to access to the restricted access data; and
the first apparatus further includes means for monitoring the negotiations (1) to detect the first indication (32) and means for responding to the detection of the first indication (32) by permitting the second apparatus to gain access to the restricted access data when data transmission (2) starts after the negotiations (1) have been completed.

8. A communication system according to claim 7, wherein the first apparatus further includes means for including in the negotiations (1) a second indication (31), and the second apparatus further includes means for monitoring the negotiations (1) to detect the second indication (31) and means for activating the first indication inclusion means in response to the detection of the second indication (31).

9. A communication system according to claim 7 or claim 8, wherein the second apparatus further includes means for including in the negotiations (1) a third indication after the first indication (32).

10. A communication system according to claim 9, wherein the first indication inclusion means and the third indication inclusion means are arranged so that the first indication (32) identifies the second apparatus as belonging to a group of apparatuses which are entitled to access to the restricted access data and the third indication identifies the second apparatus more precisely than the first indication.

11. A communication system according to any one of claims 7 to 10, wherein the first and second apparatuses are answer and call modems respectively.

12. A communication system according to any one of claims 7 to 11, wherein the first apparatus further includes means for responding to the absence of detection of the first indication (32) within the negotiations by permitting the second apparatus to gain access only to non-restricted data when data transmission (2) starts after the negotiations (1) have been completed.

Patentansprüche

1. Verfahren, welches eine rste Vorrichtung in di Lage versetzt festzulegen, ob eine zweite Vorrich-

tung Zugriff zu Daten mit Zugriffsbeschränkung haben soll oder nicht, wobei das Verfahren die Schritte aufweist:

daß die ersten und zweiten Vorrichtungen gemeinsame Abstimmungen (1) durchführen, um die technische Kompatibilität für die folgende Datenübertragung (2) zwischen ihnen sicherzustellen,
dadurch gekennzeichnet, daß das Verfahren weiterhin die Schritte aufweist, daß
die erste Vorrichtung die Abstimmungen (1) überwacht um zu erfassen, ob es innerhalb der Abstimmungen eine erste Anzeige (32) gibt, welches von der zweiten Vorrichtung herrührt und welches die erste Vorrichtung als Anzeige dafür erkennt, daß die zweite Vorrichtung berechtigt ist, auf die Daten mit Zugangsbeschränkung zuzugreifen, und
die erste Vorrichtung, falls sie das erste Anzeige (32) erfaßt, dadurch reagiert, daß sie der zweiten Vorrichtung den Zugang zu den Daten mit Zugangsbeschränkung gewährt, wenn die Datenübertragung (2) beginnt, nachdem die Abstimmungen (1) abgeschlossen sind.

2. Verfahren nach Anspruch 1, welches weiterhin die Schritte aufweist, daß

die erste Vorrichtung eine zweite Anzeige (31) in die Abstimmungen (1) einschließt,
die zweite Vorrichtung die Abstimmungen (1) überwacht, um festzustellen, ob innerhalb der Abstimmungen die zweite Anzeige (31) vorliegt, und
die zweite Vorrichtung die erste Anzeige (32) in die Abstimmungen nur dann einschließt, wenn die zweite Vorrichtung schon die zweite Anzeige (31) erfaßt hat.

3. Verfahren nach Anspruch 1 oder 2, welches weiterhin den Schritt einschließt, daß die zweite Vorrichtung eine dritte Anzeige in die Abstimmungen (1) einschließt, nachdem sie die erste Anzeige (32) in die Abstimmungen eingeschlossen hat.

4. Verfahren nach Anspruch 3, wobei die erste Anzeige (32) die zweite Vorrichtung als zughörig zu einer Gruppe von Vorrichtungen indentifiziert, welche eine Zugangsberechtigung zu den Daten mit Zugangsbeschränkung haben und daß die dritte Anzeige die zweite Vorrichtung genauer kennzeichnet als die erste Anzeige.

5. Verfahren nach einem der Ansprüch 1 bis 4, wobei die rsten und zweiten Vorrichtungen Antwort- bzw. Rufmodems sind.

6. Verfahren nach einem der Ansprüche 1 bis 5, wobei die rste Vorrichtung, falls sie di erst Anzeige (32) inn rhalb d r Abstimmungen nicht erfaßt, dadurch r agiert, daß sie d rzw iten Vorrichtung den Zugriff nur auf nicht beschränkte Dat n g währt, wenn die Datenübertragung (2) beginnt, nachdem die Abstimmungen (1) abgeschlossen worden sind.

7. Kommunikationssytem mit:

einer ersten Vorrichtung für die Kontrolle über den Zugriff auf Daten mit Zugangsbeschränkung und mit einer zweiten Vorrichtung,
wobei die ersten und zweiten Vorrichtungen jeweils Einrichtungen aufweisen für das Durchführen gemeinsamer Abstimmungen (1), um die technische Kompatibilität zwischen den ersten und zweiten Vorrichtungen für die anschließende Datenübertragung (2) sicherzustellen,
dadurch gekennzeichnet, daß
die zweite Vorrichtung weiterhin Einrichtungen aufweist, um in die Abstimmungen (1) eine erste Anzeige (32) einzuschließen, welche anzeigt, daß die zweite Vorrichtung berechtigt ist, auf die mit Zugangsbeschränkung versehenen Daten zuzugreifen, und
daß die erste Vorrichtung weiterhin Einrichtungen aufweist, um die Abstimmungen (1) zu überwachen, um die erste Anzeige (32) zu erfassen sowie Einrichtungen aufweist, um auf die Erfassung der ersten Anzeige (32) dadurch zu reagieren, daß sie der zweiten Vorrichtung den Zugriff auf die Daten mit Zugangsbeschränkung gewährt, wenn die Datenübertragung (2) beginnt, nachdem die Abstimmungen (1) vollendet worden sind.

8. Kommunikationssystem nach Anspruch 7, wobei die erste Vorrichtung weiterhin Einrichtungen aufweist, um in die Abstimmungen (1) eine zweite Anzeige (31) einzuschließen, und wobei die zweite Vorrichtung weiterhin Einrichtungen aufweist, um die Abstimmungen (1) zu überwachen, um die zweite Anzeige (31) zu erfassen, sowie Einrichtungen aufweist, um die die erste Anzeige enthaltende Einrichtung unter Ansprechen auf das Erfassen der zweiten Anzeige (31) zu aktivieren.

9. Kommunikationssystem nach Anspruch 7 oder 8, wobei die zweite Vorrichtung weiterhin Einrichtungen aufweist, um in die Abstimmungen (1) eine dritte Anzeige nach der ersten Anzeige (32) einzuschließen.

10. Kommunikationssystem nach Anspruch 9, wob i die Einrichtung, welche die erste Anzeige einschließt und die Einrichtung, w lche die dritte

Anzeige einschließt, derart ausgelegt sind, daß die erste Anzige (32) die zweite Vorrichtung als zu einer Gruppe von Vorrichtungen zugehörig identifiziert, die eine Zugangsberechtigung zu den Daten mit Zugangsbeschränkung haben und die dritt Anzeige die zweite Vorrichtung genauer als die erste Anzeige identifiziert.

11. Kommunikationssystem nach einem der Ansprüche 7 bis 10, wobei die ersten und zweiten Vorrichtungen Antwort- bzw. Rufmodems sind.

12. Kommunikaationssystem nach einem der Ansprüche 7 bis 11, wobei die erste Vorrichtung weiterhin eine Einrichtung für das Reagieren auf das Ausbleiben des Erfassens der ersten Anzeige (32) während der Abstimmungen aufweist, indem sie der zweiten Vorrichtung den Zugriff nur auf nicht beschränkte Daten gewährt, wenn die Datenübertragung (2) nach dem Abschluß der Abstimmungen (1) beginnt.

Revendications

1. Procédé pour mettre en état un premier appareil de déterminer si oui ou non un second appareil devrait avoir l'accès autorisé à des données à accès restreint, le procédé comprenant les opérations où :

les premier et second appareils effectuent des négociations (1) bilatérales pour assurer une compatibilité technique pour la transmission (2) de données subséquentes entre eux ;
caractérisé en ce que le procédé comprend en plus les opérations où :
le premier appareil contrôle les négociations (1) pour détecter si, dans les négociations, il y a une première indication (32) provenant du second appareil que le premier appareil reconnaît comme indiquant que le second appareil est autorisé à accéder aux données à accès restreint ; et
le premier appareil répond ,si il détecte la première indication (32), en permettant au second appareil d'avoir accès aux données à accès restreint lorsque la transmission de données (2) commence après que les négociations (1) aient été achevées.

2. Procédé selon la revendication 1, comprenant en outre les opérations où :

le premier appareil inclut une seconde indication (31) dans les négociations (1) ;
le second appareil contrôle les négociations (1) pour détecter si, dans les négociations, il y a la s conde indication (31), t

le second appareil inclut la première indication (32) dans les négociations seulement si le deuxième appareil à déjà détecté la seconde indication (31) .

3. Procédé selon la revendication 1 ou la revendication 2, comprenant en plus l'opération où le deuxième appareil inclut une troisième indication dans les négociations (1) après qu'il ait inclus la première indication (32) dans les négociations.

4. Procédé selon la revendication 3, dans lequel la première indication (32) identifie le deuxième appareil comme appartenant à un groupe d'appareils qui sont autorisés à accéder à des données à accès restreint et la troisième indication identifie le second appareil plus précisément que la première indication.

5. Procédé selon l'une quelconque des revendications 1 à 4, dans lequel les premier et second appareils sont des modems respectivement de réponse et d'appel .

6. Procédé selon l'une quelconque des revendications 1 à 5, dans lequel le premier appareil répond, si il ne détecte pas la première indication (32) dans les négociations, en permettant au second appareil d'avoir seulement accès à des données à accès libre lorsque la transmission de données (2) commence après que les négociations (1) aient été achevées.

7. Système de communication comprenant :

un premier appareil pour commander l'accès à des données à accès restreint, et un second appareil ;
les premier et second appareils comprennent des moyens respectifs pour accomplir des négociations bilatérales (1) pour assurer une compatibilité technique pour une transmission (2) de données subséquentes entre les premier et second appareils;
caractérisé en ce que :
le second appareil comprend en outre un moyen pour inclure dans les négociations (1) une première indication (32) indiquant que le second appareil est autorisé à accéder aux données à accès restreint, et
le premier appareil comprend en plus un moyen pour contrôler les négociations (1) afin de détecter la première indication (32) et un moyen pour répondre à la détection de la première indication (32) en permettant au second appareil d'avoir accès à des données à accès restreint lorsque la transmission de données (2) commence après que les négociations (1)

aient été achevées.

8. Système de communication s lon la r v ndication
   7, dans lequel le premier appar il compr nd n
      utre un moyen pour inclur dans les négociations
   (1) une seconde indication (31), et le deuxième
   appareil comprend en plus un moyen pour contrôler
   les négociations (1) afin de détecter la seconde indi-
   cation (31) et un moyen pour activer le moyen
   d'inclusion de la première indication en réponse à
   la détection de la seconde indication (31).

9. Système de communication selon la revendication
   7 ou la revendication 8, dans lequel le second appa-
   reil comprend un moyen pour inclure dans les négo-
   ciations (1) une troisième indication après la pre-
   mière indication (32).

10. Système de communication selon la revendication
    9, dans lequel le moyen d'inclusion de la première
    indication et le moyen d'inclusion de la troisième
    indication sont disposés de manière à ce que la pre-
    mière indication (32) identifie le second appareil
    comme appartenant à un groupe d'appareils qui
    sont autorisés à accéder à des données à accès
    restreint et la troisième indication identifie le second
    appareil plus précisément que la première indica-
    tion.

11. Système de communication selon l'une quelconque
    des revendications 7 à 10, dans lequel les premier
    et second appareils sont des modems respective-
    ment de réponse et d'appel.

12. Système de communication selon l'une quelconque
    des revendications 7 à 11, dans lequel le premier
    appareil comprend en outre une moyen pour répon-
    dre à l'absence de détection de la première indica-
    tion (32) pendant les négociations en permettant au
    second appareil d'avoir seulement accès à des don-
    nées à accès libre lorsque la transmission (2) de
    données commence après que les négociations (1)
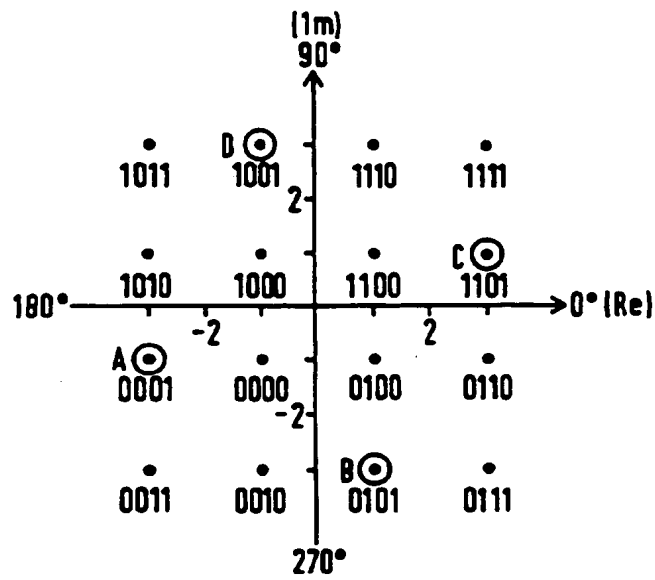   aient été achevées.

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FIG .1

FIG.2 V